



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN COMPUTER SCIENCE

SCS 213: INTERNET PROGRAMMING

DATE: MONDAY, 16TH APRIL 2012

TIME: 2.00 P.M. – 4.00 P.M.

INSTRUCTIONS – Answer Question One and any other TWO

QUESTION ONE Total 30 marks

- a. Define what the Internet is. (3 marks)
- b. Explain the management and ownership of the Internet (3 marks)
- c. In the context of Internet programming, what does CGI stand for? Describe its purpose. (2 marks)
- d. Explain what HTML stands for, and what a tag is, with examples. (3 marks)
- e. Write some HTML code to create a web page that has a title 'My HTML Web Page' and has a single line of plain text with a link to a picture 'mypicture.jpg'. (6 marks)
- f. `http://www.ku.ac.ke/index.html` is a typical URL. Define the acronym 'URL' and explain the significance of the various elements in this URL. (3 marks)
- g. Describe good design as it relates to webpages. State three characteristics of a well designed website and explain what they should be like in order to attain good web design. (4 marks)
- h. Describe accessibility as it relates to web pages. Explain how it can be achieved (3 marks)
- i. Explain what the acronym IP is. Describe its role in the World Wide Web. (3 marks)

QUESTION TWO **20 Marks**

- a. Compare and contrast IPv4 and IPv6, explaining why the former is to be phased out. (3 marks)
- b. Give an example of an IPv4 address, and a separate example of an IPv6 address (2 marks)
- c. What is JavaScript? What is it used for? (2 marks)
- d. What does the acronym DOM stand for? Describe how it applies to the use of JavaScript in website design. (3 marks)
- e. The University has commissioned a website where students can vote regarding their choice for head of the student body. However, the designers neglected to include the code that asks voter's to confirm their choice. You have been asked to add this code. Please write the **JavaScript** code that you would use to ask the students to confirm their choice, by creating a confirm button which states Confirm Your Choice then tells the user You Pressed Ok or You Pressed Cancel. (5 marks)
- f. Write a JavaScript function that accepts two numeric values and then returns the product. (5 Marks)

QUESTION 3 **20 marks**

- a. Define e-commerce (2 marks)
- b. Name two challenges to e-commerce, and state policies that the government can develop to help overcome these challenges. (3 marks)
- c. The Kenyan government recently experienced a situation where several ministry websites were rendered inaccessible. You have been appointed as a member of the E-Government ICT secretariat.
 - i) Briefly describe the possible causes that made the websites go off-line, and outline the recommendations would you make to remedy this situation. (4 marks)
 - ii) State a commercial solution available to secure the web servers. (1 mark)

- d. What the role of the Domain Name Service (DNS) in the operation of the Internet? How is DNS structured? (5 marks)
- e. Write the HTML code to create a table with 3 rows and two columns. The first row should be a header row. (5 marks)

QUESTION FOUR **20 marks**

- a. The Internet is run on protocols. Name and explain three different protocols used on the Internet. (6 marks)
- b. Explain and show what SGML, HTML and XHTML are, explaining clearly the relationship between the three. (6 marks)
- c. Name two of the document type declarations that exist. (2 marks)
- d. Give the CSS code you would use to make
- i. All body text → Times New Roman, font size 20 px
 - ii. All heading 1 → Red in colour , and center aligned
 - iii. Set the background colour to be light blue (#d0e4fe)
- (6 marks)

QUESTION 5 **20 marks**

- a. Write the HTML code you would use to ensure that a link is shown in blue, changes colour to red when the mouse hovers over it, black when active, and is maroon after the link has been visited. Use inline CSS for this example. (5 marks)
- b. Write the HTML and JavaScript code you would use to
- i) Create a form to receive the user's First Name, Last Name and Email address
 - ii) Ensure the form fields for First and Last name are **NOT** empty
 - iii) Validate the email address
 - iv) Send the data to a file sendinfo.php
- (7 marks)
- c. Write the HTML and php code for the file 'sendinfo.php' you would use to receive the information sent in (b) above. (3 marks)
- d. Differentiate between client-side and server-side scripting giving examples of such scripting languages? (5 marks)
